

Appl. No. 09/782,150
Amdt. dated April 16, 2004
Reply to Office Action of February 19, 2004

Remarks

The present amendment responds to the final Official Action dated February 19, 2003.

The Official Action rejected claims 1-10 under 35 U.S.C. 103(a) as unpatentable over Eilert U.S. Patent No. 6,282,560 ("Eilert") in view of Barritz U.S. Patent No. 5,590,056 ("Barritz"). These grounds of rejection are addressed below after a brief discussion of the present invention to provide context. Claims 1 and 6 have been amended to be more clear and distinct. Claims 1-10 are presently pending.

The Present Invention

In one aspect, the present invention provides systems and techniques for recording information relating to operating software events as they occur. Various programs and tasks are controlled by the operating system, and resource consumption, performance, scheduling and other information relating to the programs and tasks may be recorded. The information may be maintained in a ledger where it is available for analysis in order to evaluate system performance. This analysis may be performed automatically or by a user, and the results of the analysis can be used to identify parameter changes that can be made in order to improve system performance.

The Art Rejection

The art rejection hinges on the application of Eilert and Barritz, standing in combination. As addressed in greater detail below, Eilert and Barritz do not support the Official Action's reading of them and the rejections based thereupon should be reconsidered and withdrawn.

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Further, the Applicant does not acquiesce in the analysis of Eilert and Barritz made by the Official Action and respectfully traverses the Official Action's analysis underlying its rejections.

The Official Action rejected claims 1-10 under 35 U.S.C. 103(a) as unpatentable over Eilert in view of Barritz. In light of the present amendments to claims 1 and 6, this ground of rejection is respectfully traversed. Claim 1, as amended, claims recording operating software events by recording event information relating to the operating software events as the events occur, in order to provide operating software program scheduling information relating to interactions between the operating system software and the programs and tasks managed by the operating system software. The event information includes information relating to processor resource usage, priority and efficiency of operation of various applications managed by the operating system software. Claim 1, as amended, further claims "analyzing the operating software program scheduling information in order to determine how system performance is affected by the operations of the applications being managed by the operating system software; and adjusting defined parameters to modify system performance." These limitations are not taught by Eilert, Barritz, or a combination of Eilert and Barritz. Eilert teaches techniques for managing processor resources in a system supporting both real time and non real time applications. Eilert sets a limit on the processor capacity that can be consumed by real time applications, in order to insure that sufficient resources remain to support non real time applications. Eilert performs workload management in order to insure that tasks are performed in an orderly manner. Eilert also examines processor consumption and adjusts system parameters, such as the dispatch priority of various tasks, in order to achieve performance goals. However, Eilert does not record event information relating to operating software events and recording event

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information relating to operating software events as the events occur, in order to provide operating software program scheduling information relating to interactions between the operating system software and the programs and tasks managed by the operating system software, the event information including information relating to processor resource usage, priority and efficiency of operation of various applications managed by the operating system software. Recording operating software events in order to provide operating software program scheduling information makes available significant historic information that can be analyzed to provide a great deal of useful information about the operation and performance of a computer system. Such information goes well beyond that provided or required by Eilert.

Adding Barritz to Eilert does not cure Eilert's deficiencies as a reference with respect to claim 1, as amended. Barritz teaches the collection of frequency of usage information for various software modules that may be hosted on a computer system. Barritz identifies a module when the module is invoked, identifying the particular software version represented by the module and matching module usage with licensing information in order to detect usage of unlicensed software. Barritz helps to identify underused and obsolete software modules in order to allow decisions to remove the underused and obsolete modules in order to save storage resources. It also is said to help identify unlicensed usage in order to assist in complying with licensing requirements. The information collected by Barritz does not include information relating to processor resource usage, priority and efficiency of operation of various applications managed by the operating system software, as is claimed by claim 1, as amended.

The collection and analysis of such information, as claimed by claim 1, among its several advantages, helps to manage scheduling and priority of applications in order to maintain efficient

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system usage and workload management. Collection and analysis of information may advantageously be performed on relatively frequent intervals in order to obtain information needed to adjust parameters so as to improve system efficiency and performance during an ongoing operation.

Barritz, by contrast, performs surveying and reporting that is designed to update the software inventory of an installation, and does not provide information that is directed toward providing an evaluation of operational performance that lends itself to decisions relating to altering system characteristics during an ongoing operation. In order to evaluate usage of various modules, Barritz performs a survey during a relatively long sample period, and reports on module usage occurring during that period. The sample period contemplated by Barritz is relatively long, with a typical sampling period for a preferred embodiment ranging from one week to two months. See Barritz, col. 9, line 63-col. 10, line 1. Many different operations typically occur during such an extended period, and the general survey information compiled by Barritz is not directed toward making decisions that will increase the performance of the system during any particular operation.

The present invention's claimed collection of information relating to processor resource usage, priority and efficiency of operation of applications, with the information being collected for operating software events as they occur, goes beyond anything done by Eilert, Barritz or a combination thereof and allows for a high degree of flexibility in responding to changes in resource usage exhibited by various applications. Claim 1, as amended, therefore defines over the cited art and should be allowed.

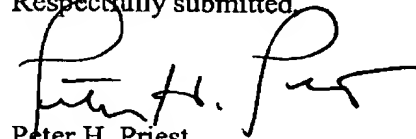
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Claim 6, as amended, claims a memory coupled to a processor, with the memory having stored therein sequences of instructions which, when executed by the processor, cause the processor to record operating software events as the events occur, in order to provide operating software program scheduling information relating to interactions between the operating system software and the programs and tasks managed by the operating system software. The event information includes information relating to processor resource usage, priority and efficiency of operation of various applications managed by the operating system software. Claim 6 also claims that the instructions analyze the operating software scheduling information in order to determine how system performance is affected by the operations of the applications being managed by the operating system software. For the reasons stated above with respect to claim 1, these limitations are not taught by Eilert, Barritz or a combination thereof. Claim 6, as amended, therefore defines over the cited art and should be allowed.

Conclusion

All of the presently pending claims, as amended, appearing to define over the applied references, withdrawal of the present rejection and prompt allowance are requested.

Respectfully submitted,



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